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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,790	09/05/2000	Angela Speith-Herfurth	6001-0106	2181

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EXAMINER

JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/16/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,790

Applicant(s)

SPEITH-HERFURTH ET AL.

Examiner

Monique R Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. The amendment filed 4/28/03 has been entered. Claims 1-17 and 20-32 are pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 3 and 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 3 and 8 recite the limitation "Mw/Mn from 1" however the current state of the art does not provide a means of obtaining a molecular weight distribution (Mw/Mn) of 1 and given that the instant disclosure does not provide a method by which one skilled in the art would be able to produce a propylene polymer or polyethylene wax wherein Mw/Mn is 1 or close to 1, the instantly claimed invention is not enabled.

Claim Rejections - 35 USC § 103

5. Claims 1-2, 5-10, 14-15, 17, 20-21, 24-25, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brew et al (USPN 5,667,902) in view of Su et al (USPN 6,312,825) or Yeh et al. Brew et al teach a high moisture barrier polypropylene packaging film comprising

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a base layer comprising a) isotactic polypropylene having an isotacticity of greater than 93%, preferably from about 94% to about 98%, and b) up to 9% by weight, preferably about 4% to about 8%, of a resin modifier, preferably a low molecular weight hydrogenated hydrocarbon having a number average molecular weight less than about 5000, preferably from about 500 to about 1000, with a softening point of from about 60°C to about 180°C, with particularly suitable resins including petroleum resins, terpene resins, styrene resins and cyclopentadiene resins (Abstract; Col. 2, lines 8-16; Col. 3, lines 1-16 and 46-63; Col. 4, lines 8-59.) Brew et al teach a preferred embodiment wherein the film has two skin layers of an olefinic polymer coextruded on both sides of the base layer with optionally a coating layer applied to the outer surface of the skin layer(s) such as a heat sealing coating (Col. 4, line 60-Col. 5, line 8.) Brew et al further teach that in order to improve certain properties of the resultant film, effective amounts of additives such as anti-blocking agents, antistatic agents and/or slip agents may be contained in the base layer and/or skin layer(s), wherein preferred slip agents include waxes with the effective added amount of lubricant varying from 0.1 to 2% by weight; and preferred antistatic agents include tertiary aliphatic amines (Col. 5, lines 29-33 and 50-54.) Brew et al teach that the film is preferably biaxially oriented from about 4.5 to about 6 times in the machine direction and from about 6 to about 13 times in the traverse direction, and has a thickness ranging from about 10 microns to about 60 microns (Col. 6, lines 19-26 and 54-57.) Brew et al teach that the skin layers each include an antiblocking agent such as silica and at least one skin layer includes silicone oil such as polydimethylsiloxane as a lubricant (Col. 5, lines 55-63.)

6. Hence Brew et al teach a core layer comprising isotactic polypropylene, a hydrocarbon resin with a molecular weight of about 500 to about 1000, and a lubricant such as wax, but does

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not specifically teach that the properties of the wax as instantly claimed, including molecular weight, type such as macrocrystalline or microcrystalline with a particular melting point.

However, Su et al teach a high barrier multilayer film having enhanced barrier properties with respect to oxygen and water vapor transmission wherein the multilayer film comprises a polyolefin core layer, preferably isotactic polypropylene, having a crystalline wax thereby imparting superior barrier properties to the film (Abstract; Col. 2, line 53-Col. 3, line 15.) Su et al teach that the wax is preferably a hydrocarbon wax, such as a mineral wax or synthetic wax, most preferably a polyethylene or polypropylene wax, wherein particularly preferred waxes are polypropylene Fischer Tropsch waxes preferably having an average molecular weight of about 640 and a melting point of about 80°C; and is preferably incorporated in an amount of about 2 to about 20% by weight wherein the amount depends on the thickness of the overall film as well as the olefin layers wherein an excess of 20% tends to produce film structures that are weak (Col. 3, lines 15-30.) Further, Yeh et al teach that improved barrier properties are obtained by incorporating about 3 to 10 percent by weight of a wax, including those as instantly claimed, having a molecular weight between 300 and 800 in the polypropylene core layer wherein the amount and molecular weight distribution of the wax are result-effective variables (Col. 1, line 66 – Col. 2, line 42.) Hence, one having ordinary skill in the art at the time of the invention would have been motivated to utilize any suitable wax as taught by Su et al or Yeh et al in providing improved barrier properties, including those with an average molecular weight of within the instantly claimed range, as the lubricant wax in the barrier film taught by Brew et al, and utilizing routine experimentation to determine the optimum amount and molecular weight distribution of the wax.

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7. Claims 12, 13, 16, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brew et al in view of Su et al or Yeh et al. The teachings of Brew et al in view of Su et al are discussed above. Brew et al do not teach olefin interlayers, the relative thickness of the base to the film, and the incorporation of neutralizers and stabilizers in each layer. However, neutralizers and stabilizers are conventional additives utilized in the art and would have been obvious to one skilled in the art at the time of the invention. In terms of Claims 13, 22 and 23, though Brew et al teach that the film has a thickness ranging from about 10 microns to about 60 microns, Brew et al do not teach that the base comprises from about 40 to 60% of the film, however, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize routine experimentation to determine the relative thickness of the base layer with respect to the total film thickness based on the desired mechanical properties of the film wherein it is further noted that Su et al teach that the polyolefin core preferably represents about 50-85% of the total film thickness. With respect to claim 12, though Brew et al do not specifically teach polyolefin interlayers, it is well known and conventional in the art to incorporate polyolefin intermediate or interlayers between a polyolefin core and polyolefin skin layers to improve adhesion between the layers or to increase film thickness wherein Su et al note that intermediate layers may be incorporated between the polyolefin core and the first and/or second surface layers of a polyolefin barrier film and hence, one having ordinary skill in the art at the time of the invention would have been motivated to include polyolefin intermediate layers in the invention taught by Brew et al in view of Su et al.

8. Claims 4, 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brew et al in view of Su et al and in further view of Murschall et al (USPN 5,246,769.) The teachings

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of Brew et al in view of Su et al are discussed above wherein it is noted that Brew et al teach that certain characteristics of polypropylene packaging films can be modified by the addition of additives wherein these important characteristics including barrier properties, mechanical properties, dimensional stability, processability and clarity (Col. 1-Col. 2, line 5.) Brew et al in view of Su et al do not teach that the isotactic polypropylene core and the polyolefin skin layers are perioxically degraded as instantly claimed. However, Murschall et al teach that a multilayer film comprising a polypropylene core that has been peroxidically degraded by a factor of about 3 to about 10 and polyolefin skin layers that have been peroxidically degraded by a factor of about 3 to 15, provides a packaging film with improved optical properties including high transparency and very high gloss (Abstract; Col. 1.) Hence, one having ordinary skill in the art at the time of the invention would have been motivated to peroxidically degrade the polypropylene core and polyolefin skin layers as taught by Murschall et al to improve the optical properties of the film taught by Brew et al in view of Su et al.

9. Claims 4, 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brew et al in view of Yeh et al and in further view of Murschall et al (USPN 5,246,769.) The teachings of Brew et al in view of Yeh et al are discussed above wherein it is noted that Brew et al teach that certain characteristics of polypropylene packaging films can be modified by the addition of additives wherein these important characteristics including barrier properties, mechanical properties, dimensional stability, processability and clarity (Col. 1-Col. 2, line 5.) Brew et al in view of Yeh et al do not teach that the isotactic polypropylene core and the polyolefin skin layers are perioxically degraded as instantly claimed. However, Murschall et al teach that a multilayer film comprising a polypropylene core that has been peroxidically

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degraded by a factor of about 3 to about 10 and polyolefin skin layers that have been peroxidically degraded by a factor of about 3 to 15, provides a packaging film with improved optical properties including high transparency and very high gloss (Abstract; Col. 1.) Hence, one having ordinary skill in the art at the time of the invention would have been motivated to peroxidically degrade the polypropylene core and polyolefin skin layers as taught by Murschall et al to improve the optical properties of the film taught by Brew et al in view of Yeh et al.

Response to Arguments

10. Applicant's arguments filed 4/28/03 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Monique R. Jackson
Patent Examiner
Technology Center 1700
July 13, 2003